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Emergency Communications
for:

COUNTY OF
CUYAHOGA

Div. of

Emergency Assistance & Planning



CODE PRACTICE
SUNDAYS 8 PM
145.29
6,9,13,16,20 & 24
W.P.M.

North Coast Communicator

INFORMAL NETS
SUNDAYS 9 PM
145.29
WEDNESDAYS 7 PM
3.870 +/-10

JANUARY, 1987

TO EVERYONE: THE BEST WISHES FOR A HEALTHY AND PROSPEROUS HAPPY NEW YEAR

Board Meeting Notice 6:00 PM Thursday January 8, 1986 at Denny's Restaurant, 25912 Lorain Road (on the North Side of Lorain between Great Northern Blvd. and Brookpark Road).

THE 1st THURSDAY OF JAN 1987 IS ON JAN 1, THERE WILL NOT BE A GENERAL MEETING

The next General Meeting will be February 5, 1987 (Thursday at 7:30 PM) at the North Olmsted branch of the Cuyahoga County Public Library, 27425 Butternut Ridge Road (on the South side next to North Olmsted Middle School between Dover Center and Lorain Roads).

CONGRATULATIONS TO THE 1987 NCARC OFFICERS AND TRUSTEES

OFFICERS: President - NR8T Tim Hitesman, Vice-President - K8TTZ Bob Mills, Secretary - KA8ZRG Dave Hoffman, Treasurer - N8GJR Jim Nestor.

TRUSTEES: N8ETQ Dan Harlan, KD8EX Tom Rudman, N8GNJ Steve Stroh, WD8INO Steve Ferraro, NO8M Steve Wolf, WD8MHL Ray Maskow, and K8SCI Rick Wells. Two additional trustees are KA8FOE Pauline Wells and WD8ISB Dick Dell who both have an additional year left in their term.

NORTH COAST ARC MEMBERSHIP NOW EXCEEDS 200 MEMBERS

As of the date of the printing of this issue of the North Coast Communicator, the NCARC membership has now reached 204 members.

WELCOME NEW NORTH COAST A.R.C. MEMBERS

Help give a warm welcome to the following new members since the December 1986 issue of the North Coast Communicator:

KB8AOL Tom Donovan	2814 Commonwealth	Parma, OH 44134	843-6969 UL
WA8IMO Bob Sull	230 Moore Rd.	Avon Lake, OH 44012	933-4582
WD8RBX Zen Bartosik	6305 Meadowbrook Ave.	Cleveland, OH 44144	398-7542 UL
KA8RKI Tami Adams	11400 Linnet Ave.	Cleveland, OH 44111	251-3080
WB8ZUR John Hamley	4845 Columbia Rd. #102	N. Olmsted, OH 44070	779-6428
- Tim Sull	230 Moore Rd.	Avon Lake, OH 44012	933-4582

AMATEUR RADIO CALL SIGNS AS OF DECEMBER 1, 1986 - EIGHTH DISTRICT

Groups: A-Extra: NU8P B-Advanced: KE8IT C-General/Tech: N8HXP D-Novices: KB8AOV

MINUTES OF THE 12/04/86 TRUSTEE MEETING de Steve (NO8M)

The meeting was called to order by the President at 1808 hours. In attendance were Ray (WD8MHL), Bob (K8TTZ), Dick (WD8ISB), Rick (K8SCI), Pauline (KA8FOE), Tim (NR8T), Jim (N8GJR), Mike (K9SSL) and Larry (KA8WRZ). Visiting were Gene (KA8ZVW) and Dave (KA8ZRG).

It was agreed that:

--If the library is not available on January 8, the January meeting would be cancelled. This is due to the normal meeting date falling on New Year's Day.

--Should enough votes not be received to determine the member's wishes on the Bylaw changes, there is a possibility that another attempt will be made at renewal time.

--Artwork done by Don's (KD8JQ) son will be implemented into the Club's needs.

The Treasurer's report was given. The repeater ownership contract has been consummated.

The meeting was closed at 1908

MINUTES OF THE 12/04/86 GENERAL MEETING de Steve (NO8M)

The meeting was called to order by the President at 1941 hours. In attendance were 4 guests, 26 members and 10 trustees.

The ballots were counted by Dick (WD8ISB), Mike (K9SSL) and Pauline (KA8FOE). The newsletter has not yet been received by a small number of members. The minutes were approved as printed in the last Communicator and read at the meeting. The treasurer's report was given.

Bob (W8IO) reported that the classes were going well with at least a 50% retention. An examination will be coming up. The next class session will begin on February 2nd. Instructors will be needed. Help is needed at the exams, regardless of VE status. Bob will be the ARRL liaison for the December 20th session. Dan, KB8A has volunteered to be the ARRL liaison for the Club after January 1, 1987.

Larry (W8KGA) asked if the Club would like to continue with purchasing shares leading to repeater ownership. The need for financial information and the culmination of the election process is needed prior to further action.

The Bylaw votes were totaled: Change one: 105 for the change, 27 against; change two: 99 for, 33 against; change three: 122 for, 11 against; change four: 118 for; 14 against. On a motion from Tim (NR8T) it was decided that the trustees should proceed with attempting to change the bylaw section dealing solely with the method for changes to the bylaws.

The officers and trustee vote was totalled as follows: Trustees: Rick (K8SCI) - 108, Steve (NO8M) - 108, Steve (N8GNJ) - 89, Dan (N8ETQ) - 89, Tom (KD8EX) - 77, Steve (WD8INO) - 76, Ray (WD8MHL) - 74, Larry (KA8WRZ) - 72, Jeff (KROJ) - 63 and Ed (KA8ZRH) - 34. Officers: Vice-President: Bob (K8TTZ) - 75, George (K8WNE) - 47; Treasurer: Rick (K8SCI) - 71 and Jim (N8GJR) - 56. K8SCI declined the office of Treasurer in a letter delivered to Steve (NO8M).

Door Prizes: An electronic Christmas Tree donated by Jim (W8PEV) was won by Dick (WD8ISB). Electronic data books donated by Tom (N8FQQ) were won by Dave (KA8ZRJ). 50-50 Raffle: \$33.00 was collected, \$16.50 was won by Dan (N8ETQ).

The meeting was adjourned 2137.

NCARC TREASURY REPORT as of 12/31/1986

Previous Balance: \$2,560.77. Monies in \$51.38 - Monies out \$332.03 = New Balance \$2,280.12. Repeater Purchase Fund: Previous Balance: \$92.25. Monies out: \$86.00. New Balance: \$ 6.25.

ARTWORK COMES VIA DON, SON OF DON (KD8JQ)

The Club has received a logo done by the 17 year old son of Don (KD8JQ) who is also named Don. This artwork will take the place of the old logo (as time permits) and will be used for the Club jackets, etc. (as time permits). Our thanks to Don's son. Anyone have any candy bars left we can get to him?

CONGRATULATIONS TO NCARC MEMBERS WHO RECENTLY UPGRADED

KB8AOL Tom (new member) upgraded to General. WD8MHL Ray upgraded to General. WD8RBX Zen (new member) upgraded to Extra. KA8ZTZ Cody upgraded to General. KA8ZVU Terry upgraded to Technician. If you ever upgrade, or your class of license is not correct on the NCARC roster, please contact Rick (K8SCI) or Pauline (KA8FOE) at 779-8999, thank you.

A BIG THANK YOU TO ALL THOSE THAT HELPED WITH THE NCARC VE EXAM DEC 20

Headed up by Bob W8IO, the following assisted with the exam: Dan KB8A, Heinz KC8F, Mike K9SSL and Tim NR8T. Many thanks for making this a smooth running operation.

NORTH COAST ARC ANNOUNCES 6 VE Exams for 1987

North Coast ARC will be sponsoring 6 ARRL VE exams during 1987 on the following dates: Feb 7, Apr 11, Jun 13, Aug 8, Oct 10 and Dec 12. These exams will be given at the North Olmsted Community Cabin located at North Olmsted Park (see flyer in this issue).

The 1987 ARRL VE Liason for North Coast ARC will be Dan KB8A. All registered NCARC VE examiners should stay in touch with Dan for scheduling.

PAUL N8HOB TO HEAD UP THE 1987 NCARC FIELD DAY COMMITTEE

A big THANK YOU goes to Paul for volunteering to head up this fun event which occurs on the fourth full week-end of June. If you are interested in helping with all of the planning for this years event, please contact Paul at 884-8398.

ED KA8ZRH TO TAKE THE UPCOMING EVENT AND CONTEST COMPILER DUTIES

In the December 1986 issue of the North Coast Communicator, I asked for someone to consider compiling this type of information so that this information would be available for our clubs newsletter. Ed has volunteered to do this.

If you become aware of any event (thru a hamfest flyer, etc.) please try and get a copy to Ed so that this information can be shared by all members. Please call Ed at 651-8191, or mail a copy to: Ed Milliron, 4009 Carlyle Ave., Cleveland, OH 44109.

Many thanks Ed for volunteering.

OUR DEEPEST CONDOLENCES AND/OR THOUGHTS GO OUT TO:

Chuck W8CEM and his family on the recent passing of his wife.

Chris KA8SLX and Tom WL7AEC on the recent passing of Chris's mother.

Al WD8JMM and his family on the recent fire that destroyed the home where they were living, and almost all of their belongings.

Bob K8RBV and family on the recent learning of their sons (3 year old Brendan) illness with Muscular Dystrophy.

Russ N8DMK and family on the recent surgery needed on his mother after a fall.

Mike KD8YM on a speedy recovery after surgery with several weeks in the hospital.

ALL PROPOSED BYLAW CHANGES WENT DOWN TO DEFEAT AT THE DECEMBER MEETING

134 bylaw decisions were returned to either the club's PO Box or brought into the meeting out of the 198 that were sent out. Since two-thirds of the general membership had to vote in favor of the proposed changes, and a non-returned decision counted as a not-in-favor of, there were not enough returned to adopt the changes ($198 \times 66.6666\% = 134$).

It is interesting to note that the vast majority of those who took the time to return the decision sheets were in favor of the proposed changes, however, those members who did not return their decision sheets caused the bylaw changes to fail.

PACKET RADIO MEETINGS - North East Ohio Packet Users Group (NEOPUG)

The next three NEOPUG meetings will be held the second Saturday of each month at 10:00 AM at the Cuyahoga Savings Bank, 21945 Chagrin Blvd., Beachwood, Ohio (approx two miles West of I-271). The dates are January 10, February 14 and March 14.

FOX HUNT REPORT FOR DECEMBER 13, 1986

The Fox was Bob K8DTS and Amy (daughter). They hid in the North Olmsted Municipile (RTA) lot between two buses. They used an ICOM02AT running 100mw into a rubber duck for the 1st minute, then ran into a feed-thru terminator (dummy load) for the next 9 minutes. At 10 minutes into the hunt, Bob put the rubber duck back onto the feed-thru terminator. At 19 minutes into the hunt, Bob removed the 3db terminator and went to the rubber duck by itsself.

At 26 mins into the hunt, Bob hooked up the HT to the 5/8 mobile antenna on the outside of the car. At 32 mins into the hunt, Bob moved his car slightly to become more visible. At 34 mins into the hunt (getting puzzled why he hadn't been found yet), Bob went to transmitting 5 Watts into the 5/8 mobile antenna. At 56 mins into the hunt, Bob and Amy saw Rick K8SCI & Pauline KA8FOE. At 61 mins into the hunt, Rick and Pauline found him using a 4 element horizontal Yagi thereby coming in 1st place.

John K8RZP found Bob and Amy at 85 mins into the hunt using a 1/2 wave vertical who was at the time unknown to be in the hunt. John had started 25 to 35 mins into the hunt from his home in Berea and came in 2nd place. Tom N8FQQ, Tami KA8RKI, and Larry KA8WRZ came in 3rd at 119 mins. Pete KE8CT and Ralph KA8WHK came in 4th at 120 mins.

Bob K8DTS used a Heath Memory keyer and a special home-built circuit to make it repeat and key the transmitter. The transmission was 20 WPM "V V de K8DTS" given 10 times for a duration of 54 secs (then 10 times for an equal "off" interval). Besides the Morse Code signal, a wailing signal going from 400 to 1250 Hz was also sent.

This was one of the strangest NCARC Fox Hunts to date. It fooled everyone at the beginning since no one expected Bob to be so close to the hunters starting point. After the first two transmissions that Bob made, most hunters thought either they had trouble with their equipment, or Bob had trouble and couldn't transmit. One thing was sure, all the hunters made sure Bob and Amy were not in Westlake.

NEXT NCARC FOX HUNT IS JANUARY 10, 1987

Come join in on the fun. The North Coast ARC Fox Hunts are open to all interested individuals. Bring your own DF equipment, or ride with someone else to help read maps, turn antennas, etc. The hunts are held the 2nd Saturday evening of each month.

The hunters should be ready to start at 7:00 PM at the rear of the North Olmsted Branch of the Cuyahoga County Public Library (Butternut Ridge Road between Dover Center and Porter Roads). Everyone meets for pizza and conversation at Frankies Pizza on Great Northern Blvd. afterwards. The Jan 10 "Fox" will be Rick K8SCI.

The Fox Hunt Rules/Guidelines are simple:

1. Two meter simplex (frequency announced to hunters prior to the hunt).
2. Transmissions and idle time are the same and can be anywhere from 15 to 60 seconds in length, but must be the same time interval for the duration of the hunt.
3. Fox cannot change their location and must be stationary.
4. Power and/or antennas can be changed (or rotated).
5. Fox Hunt Area must fall within the following: Rt 83 to the West, Rt 82 to the South, Rt 237 to the East and the Lake Erie Shore Line to the North.
6. The Fox must be on Public property with normal Public access (such as: streets, parks, schools, government locations, etc) but not inside of any building. Note that a parking lot at a shopping center is not public property but privately owned property with public access and cannot be used (this is also for the safety of the hunters and shoppers).
7. The Fox must be strong enough to be heard by the hunters at the starting point at the beginning of the hunt.
8. The Fox Hunt time limit is 2 hours total duration (from the time that the Fox is informed by the hunters that everyone is ready and to go ahead with the hunt).
9. No hunter shall drop out without making every possible attempt to inform the fox or other hunters that they are not continuing with the hunt.

Instructors/helpers or "Elmers" needed. Amateur Radio Classes start Feb 4th. Bob 734-0570

~~NOVEMBER BULLETIN NO. 100 - FAIRFIELD HGA, Newington CT - December 15, 1986~~

NORTH COAST ARC 1986 FIELD DAY RESULTS (As published in the November 86 QST)

North Coast ARC placed 7th out of 16 stations in the 7A class in the United States and Canada. 1173-B QSO's (B meaning less than 150 watts), 38 participants with a grand total of 4204 points. The 1986 North Coast ARC Field Day had great participation. Its not too soon to start thinking of the 1987 effort. Areas where North Coast ARC Field Day needs the most improvement is more CW operators. Please volunteer to help in this years effort.

NORTH COAST ARC TABLE-TOP EXCERCISE with the CITY of NORTH OLMSTED

At 9:00 AM on Saturday October 25, 1986, an disaster excercise occurred using a table-top format in which some members of the North Coast Amateur Radio Club participated in working with officials of the City of North Olmsted with needed communications services.

The disaster excercise scenario provided the following situation: At 1930 hours on December 30, 1987, a breakdown occurred at the Cleveland Electric Illuminating Company (CEI) substation at Mill and Dover Roads in the City of North Olmsted. This breakdown resulted in an explosion which propelled debris into the water tower across the street. Damage resulted to two legs of the water tower. Initial radio reports from responding police officers indicate they believe the structural integrity of the water tower may be in question.

The building directly north of the substation has burnt to the ground. CEI was contacted and one supervisor and one crew are on the scene. Cleveland Water has been contacted and a supervisor is on the scene. Mayor Petrigac, Service Director (and Emergency Coordinator) Noble, Safety Director Becker and Patrolman Wolf are at City Hall. No formal emergency operations center (EOC) has been opened. The American Red Cross (ARC) has been contacted and has dispatched a Crisis Intervention Team. Auxiliary Police assistance has been called to take over traffic control and to assist with a heavy land-line traffic load. Dover and Lorain, Dover and Brookpark Extension and Mill Road at Porter have been blocked.

A request for amateur radio assistance has been made directly to the NCARC on the 145.290 Mhz repeater by Patrolman Wolf. A request has been made for a liaison station to be located at City Hall. Additional needs appear to be for interagency liaison. Weather conditions include a forecast for a bitter cold night with an expected low temperature of minus ten degrees. And to top things off, during an attempted CEI bypass, a major power surge took out the Ohio Bell telephone switching equipment for both the 734 and 777 telephone exchanges in North Olmsted.

The amateurs who participated in this excercise were involved with handling various messages between all of the organizations that were involved in this scenario.

Many thanks go out to the following amateurs who participated with this excercise: Bob Turek (K8AAI), Jim Nestor (N8GJR), Paul Hoegstrom (N8HOB), Jack Andrisin (N8HVQ), Steve Wolf (NO8M), Ray Maskow (WD8MHL), John Pastor (K8RZP), Rick Wells (K8SCI) and Tim Hitesman (NR8T).

These type of table-top excercises are invaluable in learning message handling and working with City and County officials who are suddenly put into a disaster situation. I foresee additional excercises (such as the one described above) will be done on a on-going basis to further develop the skills of individuals participating and encourage more amateurs to volunteer when they do occur.

NOVEMBER 23rd CLEVELAND-WEST CLASSIC 13.1 MILE (HALF-MARATHON) RUN

Many thanks go to the following amateurs who participated in providing valuable communications services during this event which ran 13.1 miles through the Metropark System: Jim Barbour WD8CHL, Paul Incaini KE8CT, Rob Szule N8HHE, Paul Hoegstrom N8HOB, Ray Maskow WD8MHL, Al Dagleish WD8QAC, John Pastor K8RZP, Rick Wells K8SCI, Mike Walker K9SSL, Tim Hitesman NR8T, Joe Walker KA8WJH, Larry Tews KA8WRZ and Dave Hoffmann KA8ZRG.

Instructors/helpers or "Elmers" needed. Amateur Radio Classes start Feb 4th. Bob 734-0570

HR ARRL BULLETIN NR 95 Fm ARRL HQ, Newington CT - December 4, 1986

Reelayed by KB8NW/OBS - To all Radio Amateurs BT

The Federal Communications Commission has appointed Ralph A. Haller, N4RH, as Deputy Chief of its Private Radio Bureau, succeeding Michael Fitch, who has just been appointed the Chief of the Bureau. The Private Radio Bureau oversees numerous radio services, including the Amateur Radio Service. Haller has been with the FCC since 1971, holding posts in the Field Operations Bureau, Office of Science and Technology, and the Mass Media Bureau. N4RH holds a degree in Electrical Engineering and has published over 20 technical papers and reports, and was the Chairman of the Federal Advisory Committee for cable signal leakage AR

HR ARRL BULLETIN NR 94 Fm ARRL HQ, Newington CT - December 3, 1986

Reelayed by KB8NW/OBS - To all Radio Amateurs BT

U.S. State Department officials reported that a major Typhoon hit the islands of Saipan and Tinian in the Marianas Chain at 1700Z today. Damage was sustained. Radio Amateurs should be alert to possible requests for communications assistance for the area. W1AW will carry reports of developments, if necessary AR

HR ARRL BULLETIN NR 93 Fm ARRL HQ, Newington CT - December 1, 1986

Reelayed by KB8NW/OBS - To all Radio Amateurs BT

The Federal Communications Commission has appointed Michael T. N. Fitch as Chief of its Private Radio Bureau, effective November 28, 1986. Among matters which Fitch will oversee in his new post is the regulation of Amateur Radio through the Special Services Division and its Personal Radio Branch. Fitch has been with the FCC since 1970, has been Deputy Bureau Chief Since 1983, and Acting Chief since November 1, 1986. ARRL 1986 National Convention goers may remember seeing him at San Diego. He holds degrees in Engineering and Law, and was honored as a Presidential Exchange Executive in 1979-80 AR

GRADUATES OF THE NORTH COAST ARC NOVICE CLASS

The following individuals have obtained a passing of all requirements for the Novice Class Amateur Radio License (or higher) who attended the North Coast ARC Novice class which just ended in December of 1986: Gary Beck, Ron Deatherage, Tom Donavan (now KB8AOL temporary AG), Jerome Hess, Peter Parnin, Mary Lou Sarama (XYL of Dan KB8A), Roy Simons, Edmund Smith and Nick Szabo (12 year old son of Fred WB8UDA).

All of these individuals (except Tom KB8AOL) are now waiting for their FCC callsigns to arrive in the mail. Congratulations and welcome to the world of Amateur Radio.

MANY THANKS TO THOSE THAT HELPED WITH THE NCARC CLASSES

The NCARC members who aided in the Novice and Tech/General classes organized by Bob W8IO at the North Olmsted High School were: Dick K8DBG, Dick KD8EQ, Heinz KC8F, Jim N8GJR, Ray WD8MHL, Glenn WD8OMW, Rick K8SCI, Fred WB8UDA & Larry KA8WRZ.

NORTH COAST ARC AMATEUR RADIO CLASSES TO START WEDNESDAY, FEBRUARY 4th

Bob Allen W8IO has reserved space for amateur radio classes on the adult education schedule at N. Olmsted High School Wednesdays (7:00-9:30 PM) for approximately 12 weeks.

At this time, these classes will be open to all levels of amateur radio classes. The levels that will be given will depend on the response by those wishing to attend the classes.

Bob is now desiring those club members that would like to assist in the instruction on either a regular or part-time basis to contact him immediately so that a meeting can be arranged for all instructors. Please become involved in the all important education area of the club by contacting Bob at 734-0570 as soon as possible.

Just as important (as direct participation in the class) are volunteers to assist students on a "as needed" telephone basis (Elmers). If you would like to volunteer as a "Elmer" to aid in explaining various things to students, please call Bob at 734-0570 as well.

HR ARRL BULLETIN NR 100 Fm ARRL HQ, Newington CT - December 15, 1986

Relayed by KB8NW/OBS - To all Radio Amateurs BT

W4HHK, Tennessee, EM55, reports that on December 14 there were three apparent COSMOS satellites still transmitting on the 13 CM band. One was received December 14 beginning at 0406 UTC and one was heard December 13 from 1917 to 2232 UTC. At the start of the pass, azimuth was approximately 45 degrees true and elevation was 1 degree. At the end of the pass azimuth was approximately 90 degrees with 14 degrees elevation. Frequency with doppler shift is from 2303.990 MHZ at acquisition to 2304.015 MHz at loss of signal. The third satellite was briefly received at 2000 UTC December 13 as it passed nearly overhead. For more details, contact Paul Wilson, W4HHK, Box 73, Collierville, TN 38017, Phone 901 853 7373.

HR ARRL BULLETIN NR 101 Fm ARRL HQ, NEWINGTON CT - December 15, 1986

Relayed by KB8NW/OBS - To all Radio Amateurs BT

FO 12 has now been returned to service, with the following interim schedule. Sunday, Tuesday and Thursday mode JA, Monday and Friday mode D, Wednesday and Saturday mode JD.

The launch of RS9 and RS10 is now expected in January AR

HR ARRL BULLETIN NR 102 Fm ARRL HQ, Newington CT - December 16, 1986

Relayed by KB8NW/OBS - To all Radio Amateurs BT

As of December 16, the FCC has not received approval from the Office of Management and Budget concerning changes to FCC form 610. As a result, the FCC still does not allow for written examination credit. W1AW, The ARRL Letter and QST will carry the effective date of written examination credit as soon as it is received from FCC AR

HR PROPAGATION FORECAST BULLETIN NR 50 Fm ARRL HQ, NEWINGTON CT

December 15, 1986 - Relayed by KB8NW/OBS - To all Radio Amateurs BT

The first half of December was a time of good propagation, but with low MUF. Frequencies from 21 MHz down did well, with the Solar Flux running a steady course in the low 70s since late November. Activity on 28 MHz was marginal and short lived, and almost entirely transequatorial in nature. With the Geomagnetic A index mostly below 10, energy absorption was low, making for exceptional signal quality on 160, 75 and 40 meters. A brief disturbance peaking mildly on the 14th did little damage.

The above conditions are expected to continue through the forecast week but a more severe disturbance may develop about December 22 or 23. The Solar Flux should rise slightly after the 18th, to make for longer and better openings on 10, 12 and 15 meters, through about the 25th. The New Year is expected to open with the Solar Flux in the low 70s, almost duplicating conditions of early December.

We are at a point in the Solar Cycle where new activity can break out at almost any time with little or no warning. Any major change from the conditions outlined above will be covered in a special bulletin as soon as possible.

American sunspot numbers for December 4 through 10 were between 0 and 18 with a mean of 4.1 AR

HR ARRL BULLETIN NR 97 Fm ARRL HQ, Newington CT - December 11, 1986

Relayed by KB8NW/OBS - To all Radio Amateurs BT

An update on RS satellite news has been received from AMSAT. RS7 will remain in sunlight until January 3, and RS5 until January 8. Both satellites should be in operation every day except Wednesdays.

The launch of RS9 and RS10 is expected in January or February. The planned orbit is 1000 KM above Earth, circular with an inclination of 83 degrees AR

Instructors/helpers or "Elmers" needed. Amateur Radio Classes start Feb 4th. Bob 734-0570

The ARRL Letter December 10, 1986 via CompuServe via KB8NW

THE NEW WORLD OF AMATEUR RADIO

"The New World of Amateur Radio." That is the working title of the new ARRL videotape presentation authorized by the ARRL Board of Directors last July as a replacement for the popular "World of Amateur Radio."

ARRL Executive Vice President Dave Sumner, K1ZZ, and Roy Neal, K6DUE, who has produced many films and tapes for the American Radio Relay League and for NBC News, met in Hartford CT on December 6th and reached agreement on a fast-paced "magazine" format for the video which will go into production early in 1987.

The program will run about 30 minutes and will be made available to broadcasters, cable television and for showing to the public. It will emphasize the fun and excitement of operating amateur gear, whenever possible depicting the new and young generation of hams in action.

The production team will include Forrest Oden, N6ENV, as Producer and Editor. Bill Pasternak, WA6ITF, will be Technical Supervisor and Field Producer. Both have worked on previous ARRL presentations, including "Amateur Radio's Newest Frontier" and "SAREX - The Shuttle Amateur Radio Experiment."

The producers have already begun a search for interesting stories, people and professional production assistance. The search, like the television program itself, is worldwide in scope. Assistance from the Amateur Radio industry also is being sought.

If you have any suggestions or material, or if you wish to volunteer to work on this project, please write to Bill Pasternak, WA6ITF, TNWOAR, 28197 Robin Avenue, Saugus, CA 91350 or via MCI Mail to BPASTERNAK

\$50 TO RENEW YOUR HAM TICKET?

A private company is sending official-looking literature to amateurs offering assistance with their license renewal, and it is possible some amateurs may think the literature is from FCC. The catch is that the fee the private company charges for this service is \$50. Of course, FCC does not charge a fee to renew an amateur license, and the renewal Form 610 is available free from any FCC field office or ARRL HQ upon receipt of an SASE. FCC or ARRL HQ can also provide answers to any questions you may have about renewing your license, so save your money!

REPEATER COORDINATION--THE FCC RESPONDS

In response to a question from an individual about repeater coordination in the Kansas city area, the FCC's Ray Kowalski, Chief of the Special Services Division of the Private Radio Bureau, said "The FCC intends to rely upon state and regional councils to recognize legitimate local coordinators. The FCC will support their determinations... Revocation of regional and state council recognition of another local coordinator is *prima facie* evidence that the coordinator no longer has the support of a majority of those eligible to establish repeaters in the area it claims to coordinate. Stations which operate with illegitimate repeater coordination do so at their peril." The FCC further stated that "two active coordinators in the same large metropolitan area which do not take each other's coordinations into account may soon cause repeaters in the area to experience interference. And it is the licensees of these repeaters--not the coordinator--who risk sanctions if interference occurs."

MICHAEL T.N. FITCH, NEW CHIEF OF PRB

Michael T.N. Fitch has been named Chief of the Private Radio Bureau (PRB), replacing Robert Foosaner, who resigned to take a position in a communications law firm. Fitch has degrees in Electrical Engineering and law. He joined the FCC in 1970, and since 1983 has been the Deputy Chief of the Private Radio Bureau. Fitch attended the 1986 ARRL National Convention in San Diego last September and represented the Commission at the FCC Forum there. As Chief of PRB, Fitch has the responsibility for over 34 private radio services, including the Amateur Radio Service.

The ARRL Letter December 10, 1986 via CompuServe via KB8NW

RALPH HALLER, N4RH, DEPUTY CHIEF OF PRB

Ralph Haller, N4RH, has been appointed Deputy Chief of the FCC's Private Radio Bureau (PRB) succeeding Michael Fitch, who was appointed Chief. The Private Radio Bureau oversees numerous radio services, including the Amateur Radio Service. Haller has been with FCC since 1971, holding posts in the Field Operations Bureau, Office of Science and Technology, and the Mass Media Bureau. N4RH holds a degree in Electrical Engineering and has published over 20 technical papers and reports. He was the Chairman of the Federal Advisory Committee for Cable Signal Leakage and has directed several FCC studies of new technology.

IRVING WESTON, K4NA, SK

Irving Weston, K4NA, passed away November 1, after a long illness. Weston had retired from the FCC as Chief of the Monitoring Division of the Field Engineering Bureau. A graduate of Northeastern University in Boston where he became interested in Amateur Radio, and he was first licensed in 1923 as 1BHB. He entered government service as a radio inspector in 1928 and later was Engineer In Charge of the Allegan, MI monitoring station. Weston was a long-time member of ARRL, QCWA, and OOTC.

HEYWOOD "WOODY" GERSTNER, WB2IAP, SK

It is with sadness that we report the sudden passing of New York City-Long Island Section Manager-elect "Woody" Gerstner, WB2IAP. Woody had been a very active Affiliated Club Coordinator of the NLI Section, logging hundreds of miles on the section's club circuit. Woody was to assume the NLI Section Manager post on January 1.

MASSACHUSETTS CALL-LETTER LICENSE PLATES

Massachusetts has amended its call-letter license plate laws to include residents leasing their vehicles. Beginning January 1, any resident who has leased a car or "pick-up" truck for at least 12 consecutive months and is the principal operator of the vehicle can apply for call-letter license plates.

WEST TEXAS SECTION BEGINS JANUARY 1

Boundaries for the new ARRL West Texas section have been set as follows; All ARRL members residing in, and to the west of, the following Texas counties: Wilbarger, Baylor, Haskell, Jones, Taylor, Runnels, Tom Green, Schleicher, Sutton, Crockett, and Terrell. The new section includes the cities of Abilene, Amarillo, El Paso, Lubbock, Midland, Odessa and San Angelo. January Happenings column carries the first solicitation for nominations for West Texas Section Manager. The elected SM will take office July 1, 1987. The West Texas section will count in ARRL contests beginning with Novice Roundup in January.

NARTE CERTIFICATION

In the "Happenings" column of December QST, we mentioned that NARTE, The National Association of Radio and Telecommunications Engineers Inc., was granting credit for its commercial Technician Class IV Certificate to amateur Advanced and Extra Class licensees. The NARTE program covers not only broadcasting, but also includes commercial aspects of satellite, microwave systems, Land Mobile commercial systems and a wide range of telecommunications areas. The NARTE decision to grant its entry-level Class IV certificate provides a mechanism whereby the amateur may enter the commercial field providing a greater pool of technical personnel for industry. For further information contact NARTE at P.O. Box 15029, Salem, OR 97309, Tel (503)581-3336.

The ARRL Letter December 10, 1986 via CompuServe via KB8NW

FLORIDA SKIP AGAIN PUBLISHED

Florida Skip Inc, a Florida amateur publication, is again being published by Andy Clark, W4IYT. Andy, who suffered a stroke in May, had announced his retirement as Editor. However, he has now sufficiently recovered to again begin publishing. For subscription information, contact Andy at his Callbook address.

VUCC EXPANDS

Upon the recommendation of the VHF/UHF Advisory Committee, the popular VHF/UHF Century Club has been expanded to include 24 and 47 GHz, effective January 1, 1987. A minimum of five grid squares is needed to qualify. Contacts are good from the start of the VUCC program, January 1, 1983. To ensure fair assignment of initial numbers, applications received between Jan 1 and Jan 15 will be held, with certificate numbers determined by the date (and UTC time) of the fifth contact. Certifying Awards Managers should so note this info on applications. The first five qualifiers for each band will each receive a walnut plaque.

PACKET RUNS WELL AT NYC MARATHON

For the first time in its 11 years of providing Amateur Radio communications to the New York City Marathon, the group of 397 amateurs included a packet-radio effort. Members of New Jersey's Radio Amateur Telecommunications Society (RATS) and Packet of Long Island (POLI) teamed up to provide a packet network reporting runners who dropped out of the race held November 9.

This year's race had 20,710 starters and 1090 dropped out before the end of the race. While the 21 stations on the traditional voice net reported 685 of these, the two packet stations on the course reported an additional 303. All of this took place in about five hours. Packet handled about 35% of the total dropout traffic.

Before the race, a dedicated digipeater was installed that "looked at" both packet stations on the course and the packet net control station at the finish area. The data format used included the mile point, time of the event, number of the runner and a disposition code that explained where the runner would go (such as return to their hotel, public transit to the finish area or taken to hospital, with the name of the hospital provided).

The information, as received, was entered into a data base that converted the runner number to a name and printed a 3x5 file card giving all of the information received as well as the runner's address. These cards were then used at inquiry desks. If a runner was late in arriving at the finish area, the family of the runner could then go to an inquiry desk and the cards would be checked to see if the runner had dropped out of the race. If the runner had dropped out, all relevant information would be given to the family member.

If two stations were successful, what could four or five do? We plan to find out next year when 25,000 runners will be allowed to start. The operation this year was a practical demonstration that proved packet radio's ability to be integrated into a large-scale amateur activity. -- Steve Mendelsohn, WA2DHF

W6AM MEMORIAL UPDATE

The City of Rancho Palos Verdes, CA will probably become the home of a memorial museum for Amateur Radio pioneer Don Wallace, W6AM. On November 25, the Rancho Palos Verdes city planning council approved a tentative tract map for development of the Wallace property. The council provided for a one acre tract of land to be set aside for the development of a W6AM radio museum. The city council must still review and approve the planning council's recommendation.

The W5YI Report Dits & Bits, Vol 8 #24, 12/15/86

HamNet Electronic Edition via CompuServe's Ham/SWL Forum via KB8NW

1986 - The Year in Review

Every year about this time we pause to reflect on the major amateur radio and telecommunications happenings of the past twelve months. One thing is for certain... technology - like time, never stands still - and amateur radio is always in a state of change.

This issue ends our eighth year of publishing THE W5YI REPORT. What started as a fun "side hobby" is now a "fun business". Cash flow is in four figures a month. The Report goes all over the world. Since we allow republishing rights (with credit), we don't know how far ranging it really is. We started very simply. THE W5YI REPORT began as input to a single amateur radio club newsletter. It grew from there. We made it available to others who wanted it.

There was no charge for the early (photocopied) editions. We existed on donations and SASE. Our distribution system consisted of twenty-four "slots" in our garage - one for each issue during the year. Numbered envelopes were inserted into these slots in reverse order. If you had an envelope in the current issue's slot, you got a newsletter. We advised readers to send in more envelopes when their numbered envelope got down to one or two. Agreed, it was a very antiquated system, but it seemed to work.

In 1982, we discovered we had over 10,000 envelopes in our distribution "system". The situation was getting out of hand and something had to be done. We decided to offer subscriptions and figured that no one would pay for something they had previously gotten free. We were wrong. Subscriptions started coming in and THE W5YI REPORT has grown ever since. Writing the Report continues as an avocation rather than a vocation.

The following is some of the highlights from past years...

SEVEN YEARS AGO - There was a falling out between the ARRL and the CRRL - the Canadian Radio Relay League. Ron Hesler, VE1SH, resigned as ARRL Canadian Division Director, charging that the League meddled in strictly Canadian affairs. It was the beginning of what would ultimately lead to Canada being separated from the ARRL.

In September, 1980, we wrote an editorial entitled "Is the FCC Getting Out of the Testing Business." The signs were all there. Three years later, it happened.

The Amateur Call Sign Scandal was also big news in 1980. Richard C. Ziegler, Chief of the FCC's Special Licensing Section in Gettysburg, ended up in prison for accepting \$100 payments from four amateurs in the Columbus (Ohio) area in connection with the issuance or reservation of specific amateur radio operator call signs. Other top FCC officials were involved in a lesser way.

SIX YEARS AGO - 1981 saw the FCC continuing their ban against marketing ham linears that could also amplify CB radio signals. Amateurs couldn't understand why they were penalized for something not of their doing. (They still can't).

Representative Bill Dannemeyer (R-California) introduced legislation into Congress "to permit the FCC to employ volunteer CB and amateur radio monitoring and to legally allow Novice amateur radio examinations to be given by volunteer examiners. Although the Novice license had always been administered by volunteers, Government rules forbid free volunteer help by citizens.

IBM made a decision to market home computers and major corporations geared up for the computer boom. Dick Baldwin, W1RU, ARRL General Mgr, announced his retirement after serving the League some 30 years. An FCC "White Paper" on interference said RFI problems are getting worse. A new type of interference called "Cable TVI" impacted amateur radio.

FIVE YEARS AGO - As predicted in 1980, due to massive budget and manpower cuts, the FCC begins looking toward turning amateur testing over to the amateur community. They League suggested that only non-profit and accredited educational institutions be allowed to participate.

(continued)

The W5YI Report Dits & Bits, Vol 8 #24, 12/15/86

HamNet Electronic Edition via CompuServe's Ham/SWL Forum via KB8NW

1986 - The Year in Review (continued)

The FCC proposed to expand the 20-meter voice subband. General Electric petitioned to establish a new Personal Radio Service at 900 MHz...sort of a long-range cordless phone service called PDRS but later backed out. The government turned thumbs down on a no-code entry level ham license but thumbs up on amateur self-testing as Ronald Reagan signed H.R. 3239 into Public Law 97-259.

Rumors were rampant about the possibility of amateur radio flying into space with a ham astronaut! Amateurs got to use the WARC-approved 10-MHz ham band for the first time. Drug traffickers and revolutionaries in Central and South America discovered that amateur radio gear provides excellent long-haul communications - but so did enforcement officials who monitored them.

FOUR YEARS AGO - The Senate ratified the 292-page WARC accord in 1983. Amateur self-testing got underway at the Dayton Hamvention. The FCC expanded 20-meter phone privileges and allowed volunteers to write, administer and grade the complete Novice examination.

The two biggest stories of 1983 were that of Astronaut Owen Garriott, W5LFL, blasting into space with a Motorola ham handie-talkie and the public listening to the US invasion of Grenada as told by a young ham medical student over amateur radio - the news media having been blacked out.

OSCAR-10 was successfully launched. ARRL president, Vic Clark, W4KFC, passed away just before the Garriott mission. FCC discontinued routine ham logging, approved ten year term amateur licenses and transmitter power measurement in terms of PEP output rather than input.

THREE YEARS AGO - The FCC gave their final amateur radio examinations and looked around for amateur organizations to take this duty over. Amateur radio showed no growth during 1984. The Olympics got underway with considerable amateur support. A new amateur mode, "packet radio", came to the forefront. League staff morale tumbled and a union election was ordered. Backyard dishes proliferated as private satellite earth station owners realized that pay TV can be had for free!

TWO YEARS AGO - A massive earthquake in Mexico City knocked out regular communications channels. Broadcasters resorted to amateur radio spectrum for newsgathering. Amateur operators provided much needed emergency disaster communication during the Mexico City earthquake, the Colombian volcano eruption and the Dallas Delta-191 plane crash. The FCC declared a limited pre-emption over state and local regulation of amateur radio facilities.

Amateur radio continued to show very little growth. The FCC administered no amateur tests at all during 1985 for the first time. Astronaut Tony England, W0ORE, operated amateur radio from space orbit. Many states adopted two-meter band plans that conflicting with their neighbors.

LAST YEAR - Automatic control of digital communications above 50 MHz was allowed but not for third-party traffic. Many Petitions for Reconsideration were filed and the FCC temporarily approved the third party traffic issue until they could finally rule on it. Amateurs made plans for PACSAT, a global store-and-forward "flying mailbox". Caribbean hams got expanded 40-meter phone privileges.

The FCC proposed credit for written amateur radio operator examinations in February - authorizing it effective December 15th. Canada proposed to restructure its amateur service paving the way for a possible no-code entry ham ticket.

(continued)

The W5YI Report Dits & Bits, Vol 8 #24, 12/15/86
HamNet Electronic Edition via CompuServe's Ham/SWL Forum via KB8NW

1986 - The Year in Review (continued)

The "Hands Across America" charity project linking people from coast-to-coast utilized amateur radio as its primary communications medium. Acting on several petitions from the public, the FCC proposed voice privileges for Novice operators. The issue proved to be more controversial than anticipated.

In an Order on Amateur Frequency Coordination, the FCC decided against the concept of a single national coordinator and left it to the amateur community to determine the best use of its spectrum by refusing to get involved. The Commission did, however, recognize repeaters as having certain prior rights and placed the responsibility for resolving any interference on non-coordinated repeaters.

The Electronic Privacy Act became law and it became unlawful to monitor certain radio spectrum. The marketing of electronic equipment primarily capable of receiving this spectrum was also forbidden. OSCAR-10 suffered a fatal malfunction.

A satellite video terrorist calling himself "Captain Midnight" uplinked a signal which overtook an HBO movie. He later was caught and turned out to be an amateur radio operator opposing satellite program scrambling.

In August, Pat Sherrill, N5PS, an Extra Class (Oklahoma City) amateur operator snapped over a work dispute and killed fourteen co-workers before turning the gun on himself and taking his own life.

The FCC's Office of ~~Plans~~ and Policy issued "Working Paper #20" in September suggesting the need for many Personal Radio Service changes ...including several Amateur Radio Service matters.

US amateurs provided communications during a massive Central American earthquake that levelled portions of San Salvador in October.

The FCC turned maintenance of the various amateur radio test question pools over to the various VEC's effective December 31st. Several protesting Petitions for Reconsideration were filed.

Partially due to fine amateur work American amateurs did during the Mexican earthquake, Mexico started issuing Class II "courtesy" licenses to US amateurs in 1986. A Mexican Class II license allows 250 watts on all bands. It caused quite a commotion in the US when many Novice level amateurs obtained free Mexican licenses and started talking back to the US on HF.

What is Ahead for 1987?

The big amateur radio item in the United States next year will be, of course, Novice Enhancement. We probably won't see anything on it for at least 30 and possibly 60 days, but it is a "sure thing". The question is what will be adopted compared to what was proposed. There are bound to be some changes - maybe many changes - over the original NPRM. Strong rumors are that getting a Novice license will not be as easy as it has been in the past.

It will also be interesting to see what happens as VEC's assume the various question pools. Hopefully, we'll only have one set of standardized questions.

NORTH COAST ARC ROSTER CHANGES

Dave Kifer N8ETY has relocated back to the Cleveland area after a short relocation to California (welcome back Dave). Address: 10720 Aaron Dr., Parma, OH 44130 Phone: 885-2131

Wayne Pipoly N8FGR has relocated back to the Cleveland area from Maryland (welcome back Wayne). Adr: 4350 Lander Rd., Orange Village, OH 44022 Phone: 831-8003 UL

Eric Benedict WD8MHR has changed his address from Parma to North Royalton, Ohio. His new address is: 12470 Albion Rd., N. Royalton, OH 44133 Phone: 237-8720.

DON'T FORGET TO CONTACT RICK K8SCI OR PAULINE KA8FOE AT 779-8999 TO REPORT ANY CHANGES TO YOUR ROSTER INFORMATION.

The ARRL Letter Vol 5, No. 24 via CompuServe via KB8NW

1987 HANDBOOK AVAILABLE

The brand new 1987 ARRL Handbook contains a wealth of information for amateurs of all interests. In its 40 chapters containing over 1200 pages, readers will find state-of-the-art sections on subjects as diverse as amateur satellite operation, propagation, filter design, QRP or QRO HF transmitters, station accessories, even 23-cm FM television! The ARRL Handbook is a must for any technical library. The Handbook is available for \$18.00 paperbound, or \$27.00 clothbound. If ordering from HQ add \$2.50 shipping and handling (\$3.50 for UPS). (Editors Note: Congratulations to North Coast Amateur Radio Club member Paul Hoegstrom N8HO3 who got a photograph printed on the front cover. He took a picture of Field Day Antennas put up near Vermillion (with Lake Erie in the background) during his Field Day outing with the North Coast Contest Club in 1986).

RSGB PACKET NEWSLETTER

The Radio Society of Great Britain has announced a new newsletter devoted to packet radio. Connect International will include full-length technical articles, discussions of packet hardware, software and protocols, a beginners column, operating news, information and a general international slant on packet. Subscriptions for air-mail delivery of Connect International are 6.93 Pounds Sterling in North America to cover issues through June 1987, and 9.24 Pounds annually thereafter (all subscriptions are renewed on July 1 annually). Your local bank may be equipped to issue checks in British pounds as well as other foreign currencies. The address of the RSGB is: Radio Society of Great Britain, Lambda House, Cranborn Rd., Potters Bar, Herts. EN6 3JW United Kingdom

NON-FCC CERTIFIED COMPUTER DEVICES SEIZED AT LAS VEGAS COMPUTER SHOW

US Marshalls, assisted by FCC agents, seized non-certified equipment at the COMDEX computer show in Las Vegas, NV. The devices were being displayed by "Wholesale Outlet," a company based in Albany, NY. According to the FCC news release, the firm had been previously fined \$2000 by FCC for offering non-certified devices for sale.

G3JKI/5A QSLs VALID FOR DXCC

G3JKI/5A [Libya] QSLs are now valid for DXCC credit. G3JKI/5A operated from Libya during 1980 and 1981. Attempts to obtain clarifying documentation had been unsuccessful. However, G3JKI has recently been located, and the documentation has been received at ARRL HQ. This is welcome news by many in the DX community lacking this credit.

VICTORY FOR HOME SATELLITE DISH OWNERS

A NY state appellate court has dealt a setback to efforts by local municipalities to ban or restrict home satellite dishes. The four judge panel of the Appellate Division of the NY State Supreme Court reversed an earlier decision upholding the local zoning board's decision and sent the case back to the local zoning board for another review. The case began when the town of Hempstead refused to grant a permit for a 13-foot-wide dish a family wanted to put in the back yard of their home. The appellate court, citing the FCC ruling on satellite dish pre-emption, CC Docket 85-87, said that this federal regulation prevents localities from using local codes to ban or restrict satellite dishes. This is one of the few cases HQ has seen regarding satellite dishes, and its precedent, especially from a large state like New York, should carry much weight nationwide.

Instructors/helpers or "Elmers" needed. Amateur Radio Classes start Feb 4th. Bob 734-0570

HR DX BULLETIN NR 49 Fm ARRL HQ, Newington CT - December 12, 1986

Relayed by KB8NW/OBS - To all Radio Amateurs BT

Thanks to K1XM, the Yankee Clipper Contest Club and the Southern New England DX Association for the following DX information.

Lloyd and Iris The Colvins have left Mayotte, FH, and are on their way to D68, Cooros. QSL via YASME.

Crozet FT8WA has been active on 14220 Khz at 1900Z. QSL to F6FNU. FT8XD is expected on soon from Kerguelen.

Mauritania N4GNR reports that he is not the QSL manager for the 5T5XX operation mentioned in last weeks bulletin.

Ogasawara 7J1ACH continues to be active on all bands. Look for him on 3501 Khz at 1230Z.

Liberia Liberian amateurs are using a special A8 prefix through the end of the month. A88CE has been active around 14200 Khz around 1900Z. QSLs for all the A8 stations go via N5AGP.

Gambia It is reported that a British group will operate from the Gambia December 10 through 18, on all bands, using C56/ their British callsigns.

Franz Josef Land UA1OT, UV1OO and RZ1OWA have all been active on 160 meters from about 0000 to 0200Z, working W1s through W0s. UA1OT has also been active around 1410 and 1430Z.

Peter I It is reported that KD7P will be leaving Palmer Base on December 26. He will helicopter from his Coast Guard vessel on January 1 and will be on shore operating as 3Y0AK from two to twenty four hours depending on how long his Captain allows him to remain on shore. Operation will be concentrated on 14145 Khz. There may be some CW, and some operation on 40 and 15 meters if propagation permits. It is also reported from a Norwegian source that the Norwegian government is sending an expedition to Peter I to quote "hang the flag" unquote. Amateurs are invited on this trip but will have to pay their own expenses.

QSL INFO for recent expeditions 5T5XX goes to DL1VJ. XX9XX goes to JA5DQH. The recent Galapagos expedition, HC8A, K1XM/HC8 and KQ1F/HC8 go to KQ1F. KD2HE/HC8 goes to KD2HE AR

HR DX BULLETIN NR 48 Fm ARRL HQ, Newington CT - December 5, 1986

Relayed by KB8NW/OBS - To all Radio Amateurs BT

Thanks to W9NUF and the Northern Illinois DX Association for the following DX information.

Chad TT8AQ has been active on 14 and 21 Mhz sideband in the 1900 to 2100Z time period. He also is reported to be on 7 Mhz occasionally. QSL via F6EYS.

Gambia A C56 operation by several UK operators is planned for December 10 through 18.

Kampuchea XU1SS continues to be found regularly on 14 Mhz SSB around 2300Z. They have put up a 7 Mhz dipole. Watch for them on SSB on 7088 Khz around 0700Z.

Macao XX9XX, operated by JA5DQH and JA6LCJ, plans to be on from now through December 10. QSL via JA5DQH.

Mauritania 5T5XX has been very active during the past ten days. He has been worked on 3508 Khz at 0630Z, 7002 Khz at 2345Z and 21025 Khz at 1430Z.

Peter I Island It is now reported that KD7P has been issued a license with the call of 3Y0AK to operate from Peter I Island. Whether an operation this fall or winter is possible remains to be seen.

Sierra Leone 9L1IS has been quite active on 14 Mhz SSB. Watch 14224 Khz around 1945Z and 14160 Khz around 2300Z. Stateside QSLs only for 1986 go via KB9N.

Yemen Rumors persist of a possible operation from 7O by a group of French amateurs, possibly during December.

HR DX BULLETIN NR 46 Fm ARRL HQ, Newington CT - November 21, 1986

Relayed by KB8NW/OBS - To all Radio Amateurs BT

Thanks to KB1BE and the Connecticut DX Association for the following DX information.

Comoros Bill, D68WD, is active again. Look for him on 14165 KHz and 14192 KHz from 1900 to 2000 UTC.

Sri Lanka 4S7RO can be found daily on 7001 KHz from 1130 to 1200 UTC.

Cyprus DL1RK and DF8ZH will sign /5B4 through December 6. QSL to home calls.

Sudan ON7IP/ST2 is leaving Khartoum on November 30. QSL to his home call.

Reunion FR/W6QL, Iris and Lloyd of Yasme fame, are still active. Rumor has their next stop soon as Mayotte or possibly Glorioso.

Eastern Caroline Is. Will be operated by Dave, KX6DS, at the station of KC6JC starting November 23. Dave plans to upgrade the power capability of 75 meters as well as set up 160 meter antennas.

Galapagos HC8A, by K1XM and KQ1F, will also sign /HC8 before and after the CQ WW contest, including some low band activity.

India There have been some good 40 and 20 meter long path openings lately, as well as short path routes. Look for VU2CK, VU2TTC and VU2TPK at the bottom of 80 meters around 0100 to 0130 UTC and again at 1200 to 1230 UTC. On 20 meters, 0130 to 0200 UTC has also been productive.

Hong Kong JA5DQH will operate CQ WW CW contest from the QTH of VS6DO. He will sign NN7S/VS6 November 26 to December 2 and then move on to Macao.

Macao JA5DQH and JA6LCJ will operate XX9XX December 2 through 10. QSL to JA5DQH.

G3JKI/Libya Thanks to the persistent efforts of Arthur, G3JKI, supporting documentation has finally been obtained to allow DXCC credit for the 1980 and 1981 operations of G3JKI/5A. Cards submitted November 1 and after will be credited.

Gibraltar OH2KI plans a major effort in the CQ WW CW contest, November 29 and 30, operating ZB2BU on all bands. QSLs go to OH2KI.

South Shetlands A group of Chilean amateurs will operate 3G9SBY on all bands, 160 to 10 meters, on SSB, CW and RTTY, from December 12 through 18. The operation will be from Deception Island.

Aves Island An expedition is being planned for March 1987 by a group of Venezuelan amateurs to operate as 4M0ARV AR

CLEVELAND HAMFEST ASSOCIATION UPDATE

At the December 2, 1986 CHA meeting, the following were elected to the Board of Directors: Don Ritchie K8ZGW and Ed Stevens WB8ROK for 2-year terms; Marion Hill WA8GZC, Ted Shook WD8CRJ and Rick Wells K8SCI for 1-year terms. Other Board of Directors continuing to serve for the second of a 3-year term are: Cliff Bade W8CJB and Bill Tisza W8CZW.

The new Board of Directors then elected the 1987 officers: President - Don K8ZGW, Vice President - Marion WA8GZC, Secretary - Ed WB8ROK and Treasurer - Cliff W8CJB.

The next meeting of the CHA will be at Denny's Restaurant (W. 150th & I-71) on Tuesday, January 20, 1987. Dinner will be at 6:30 PM and the meeting will be at 7:30 PM.

Anyone interested in getting involved with the CHA is welcome to attend.

NORTH COAST ARC ARRL VE EXAM: DECEMBER 20, 1986 - REPORT

There were 17 individuals who came to the examination. After it was all over, 2 of them upgraded to Extra, 3 of them upgraded to Technician and 3 of them upgraded to General. We congratulate all those who were successful, and we encourage those who tried but didn't succeed to keep up the faith and we wish them success on their next exam.

Instructors/helpers or "Elmers" needed. Amateur Radio Classes start Feb 4th. Bob 734-0570

I STEPPED IN IT, BUT IT WON'T COME OFF MY SHOE! de Ed KA8ZRH

Amateur radio, and the NCARC have given me a great deal of enjoyment since I got my ticket back in June. When I read in the Communicator of the need for someone to gather information on upcoming events, I thought I'd give it a shot! Thus, the title above.

If you know of any event that may be of interest, even remotely, to the club members, please give me a call. The number is 651-8191 (UL). Thanks, Ed Milliron KA8ZRH.

P.S. I'm not a writer, nor can I spell. I don't own a computer or a word processor. I had my eight year old daughter proof read this because she has a better command of the english language than I do. I would consider any harsh words to that effect a personal attack on her, and the wrath of Marconi would shurly befall your shack!!!!

UPCOMING EVENTS CALENDAR

Jan 8	NCARC Board Meeting at 6:00 PM (No January NCARC General Meeting).
Jan 9	LCARA Fox Hunt, 7:00 PM, Union Sand, Rt 84, Painesville, ck w/147.21 rptr.
Jan 10	NEOPUG (North East Ohio Packet Users Group) Meeting at 10:00 AM.
Jan 10	NCARC Fox Hunt, 7:00 PM, N. Olmsted, check with 145.29 repeater.
Jan 10, 11 & 12	ARRL January VHF Sweepstakes (50 Mhz and above). Dec QST, page 79.
Jan 17 & 18	Crazy 8's HF/VHF/UHF Contest. 1400Z Jan 17 - 2300Z Jan 18. See Dec QST.
Jan 20	North American Teleconference Radio Net (9:00 PM) features W2NSD Wayne Greene on a discussion of rebuilding the Amateur Radio Service.
Jan 23	LCARA Fox Hunt, 7:00 PM, Union Sand, Rt 84, Painesville, ck w/147.21 rptr.
Jan 24 thru	Novice Roundup. If you think all Novice ops are slow, try this one. One week long. 7:01 PM EST Saturday, January 24 thru 6:59 PM EST Sunday, February 1. See Page 80 of January QST.
Feb 1	NOARS Winterfest, Gargus Hall (Route 254 West of Route 57) Lorain. 8:00 AM until approx 2:00 PM. Information/directions on NOARS 146.10/70 rptr.
Feb 1	NOARS ARRL VE Exam, 3:00 PM, EST Bldg, downtown Elyria, OH.
Feb 4	NCARC Amateur Radio Classes start at North Olmsted High School.
Feb 5	NCARC Board meeting at 6:00 PM.
Feb 5	NCARC General Meeting at 7:30 PM.
Feb 6	LCARC Fox Hunt, 7:00 PM, Union Sand, Rt 84, Painesville, ck w/147.21 rptr.
Feb 7	NCARC ARRL VE Exam - Saturday 1 PM in North Olmsted, Ohio.
Feb 7	LCARA ARRL VE Exam - Saturday - Painesville, Ohio.
Feb 14	NEOPUG (North East Ohio Packet Users Group) Meeting at 10:00 AM.
Feb 14	NCARC Fox Hunt, 7:00 PM, N. Olmsted, check with 145.29 repeater.
Feb 20	LCARA Fox Hunt, 7:00 PM, Union Sand, Rt 84, Painesville, ck w/147.21 rptr.
Feb 22	Cuyahoga Fall ARC Auction/Fest located on County Road 18 East of Tallmadge, Ohio. Talk-in on 147.87/27. Tables available for \$6.00 each. If you prefer to have your old gear sold at Auction, the CFARC takes 10% if it sell. No sale - No fee. Tickets are \$3 in advance, \$4 at door. Send SASE to Bill Slovinsky K8JSL, 2305 24th St., Cuyahoga Falls, Ohio 44223.
Mar 5	NCARC Board Meeting at 6:00 PM.
Mar 5	NCARC General Meeting at 7:30 PM.
Mar 6	LCARA Fox Hunt, 7:00 PM, Union Sand, Rt 84, Painesville, ck w/147.21 rptr.
Mar 7	LGARC ARRL VE Exam, 12 Noon, Mentor Fire Station, Rt 615, Mentor.
Mar 14	NEOPUG (North East Ohio Packet Users Group) Meeting at 10:00 AM.
Mar 14	NCARC Fox Hunt, 7:00 PM, N. Olmsted, check with 145.29 repeater.
Mar 20	LCARA Fox Hunt, 7:00 PM, Union Sand, Rt 84, Painesville, ck w/147.21 rptr.
Mar 22	Lake County Hamfest, Madison High School in Madison, Ohio (8:00 AM to 3:00 PM). LCARC pre-registered ARRL VE Exams given. Check with the 147.81/21 repeater for more information on both.

Instructors/helpers or "Elmers" needed. Amateur Radio Classes start Feb 4th. Bob 734-0570

W1AW Schedule

October 26, 1986—April 5, 1987

W1AW code practice and bulletin transmissions are sent on the following schedule:

UTC Slow Code Practice MWF: 0300, 1400; TThS: 0000; TThSSn: 2100; Sn: 0300

Fast Code Practice MWF: 0000, 2100; TTh: 0300, 1400; S: 0300; Sn: 0000

CW Bulletins Dy: 0100, 0400, 2200; MTWThF: 1500

Teletypewriter Bulletins Dy: 0200, 0500, 2300; MTWThF: 1600

Voice Bulletins Dy: 0230, 0530

Slow Code Practice MWF: 4 PM, 7 PM; TThSSn: 4 PM, 10 PM

MWF: 4 PM, 10 PM; TTh: 9 AM; TThSSn: 7 PM

DY: 5 PM, 8 PM, 11 PM; MTWThF: 10 AM

DY: 6 PM, 9 PM, 12 PM; MTWThF: 11 AM

DY: 9:30 PM, 12:30 AM

Fast Code Practice MWF: 8 AM, 6 PM; TThSSn: 3 PM, 9 PM

MWF: 3 PM, 9 PM; TTh: 8 AM; TThSSn: 6 PM

DY: 4 PM, 7 PM, 10 PM; MTWThF: 9 AM

DY: 5 PM, 8 PM, 11 PM; MTWThF: 10 AM

DY: 8:30 PM, 11:30 PM

Slow Code Practice MWF: 2 PM, 8 PM; TTh: 7 AM; TThSSn: 5 PM

MWF: 2 PM, 8 PM; TTh: 7 AM; TThSSn: 5 PM

DY: 3 PM, 6 PM, 9 PM; MTWThF: 8 AM

DY: 4 PM, 7 PM, 10 PM; MTWThF: 9 AM

DY: 7:30 PM, 10:30 PM

Fast Code Practice MWF: 1 PM, 7 PM; TTh: 6 AM; TThSSn: 4 PM

MWF: 1 PM, 7 PM; TTh: 6 AM; TThSSn: 4 PM

DY: 2 PM, 5 PM, 8 PM; MTWThF: 7 AM

DY: 3 PM, 6 PM, 9 PM; MTWThF: 8 AM

DY: 6:30 PM, 9:30 PM

Voice Bulletins Code practice, Qualifying Run and CW bulletin frequencies: 1,818, 3,58, 7,08, 14,07, 21,08, 28,08, 50,08,

14,565 MHz.

Teletypewriter bulletin frequencies: 3,625, 7,095, 14,095, 21,095, 28,095, 147,555 MHz.

Voice bulletin frequencies: 1,89, 3,98, 7,29, 14,29, 21,39, 28,59, 50,19, 147,555 MHz.

On Monday, Wednesday and Friday, 1400 through 2200 UTC, transmissions are beamed to Europe

on 14, 21 and 28 MHz; on Wednesday at 2300 UTC they are beamed south.

Slow code practice is at 5, 7½, 10, 13 and 15 WPM.

Fast code practice is at 36, 30, 25, 20, 15, 13 and 10 WPM.

Code practice texts are from QST, and the source of each practice

and at the beginning of alternate speeds. For example, "Text is from July 1986 QST, pages 9 and 84."

indicate that the main text is from the article on page 9 and the mixed number/letter groups at the end of

each speed are from the contest scores on page 84.

On Fridays, UTC, a DX bulletin replaces the regular bulletin transmissions.

On Wednesdays at 2300 UTC, an IARU Region 2 bulletin in English and Spanish on 45.45-band Baudot is sent

on the regular teletypewriter frequencies, beamed to Central and South America. The 2300 UTC Teleprinter

Bulletin transmission is also beamed south on Wednesdays.

On Tuesdays and Saturdays at 2330 UTC, Keplerian Elements for active amateur satellites will be sent on

45.45 baud Baudot on the regular teletypewriter frequencies.

W1AW CW and voice bulletins are sent on OSCAR 10, Mode B, subject to reactivation of the transponder.

Look for CW on 145.840 MHz and SSB on 145.962 MHz.

Teletypewriter bulletins are 45.45-baud Baudot, 110-baud ASCII and 100-baud AMTOR, FEC mode. Baudot, ASCII

and AMTOR (in that order) are sent during all 1600 UTC transmissions, and 2300 UTC on TThSSn. During other

CW bulletins are sent at 18 WPM.

W1AW is open for visitors Monday through Friday from 8 AM to 1 AM EST and on Saturday and Sunday from

3:30 to 1 AM EST. If you desire to operate W1AW, be sure to bring a copy of your license with you.

W1AW is available for operation by visitors between 1 and 4 PM Monday through Friday.

In a communications emergency, monitor W1AW for special bulletins as follows: voice on the hour, teleprinter

at 15 minutes past the hour, and CW on the half hour.

W1AW will be closed on December 25 and 26, January 1 and February 16

January 1987

EST

CST

MST

PST

EDT

CDT

MDT

PDT

AKDT

HDT

ADT

EDT

North Coast ARRL 1987 Amateur Radio License Examinations

When:	1 pm Sat. 2/7, 4/11, 6/13, 8/8, 10/10, 12/12
Where:	N Olmsted Comm. Cabin (map on reverse side)
Elements:	1A-4B (Novice-Extra)
Walk-ins:	Allowed
Talk-in:	145.29 repeater

Needed :

1. ORIGINAL FCC LICENSE, IF ANY
2. ONE COPY OF YOUR FCC LICENSE, IF ANY
3. ORIGINAL CERTIFICATE OF SUCCESSFUL COMPLETION OF EXAMINATION (CSCE), IF ANY
4. ONE COPY OF CSCE, IF ANY
5. ORIGINAL FCC COMMERCIAL RADIOTELEGRAPH LICENSE, IF ANY (FOR 20 WPM CODE CREDIT)
6. ONE FORM OF IDENTIFICATION (DRIVERS LICENSE, BIRTH CERTIFICATE, PASSPORT OR A LIBRARY CARD)
7. \$4.35 CHECK OR M.O. PAYABLE TO: ARRL/VEC
8. FCC FORM 610
9. PENCILS AND/OR PENS

FOR MORE INFORMATION, CONTACT:



DAN SARADMA, KB8A
15591 RADEMAKER BLVD.
BROOK PARK, OHIO 44142
267-5083

PAULINE WELLS, KA8FOE
5955 BURNS ROAD
NORTH OLMSTED, OHIO 44070
773-8333

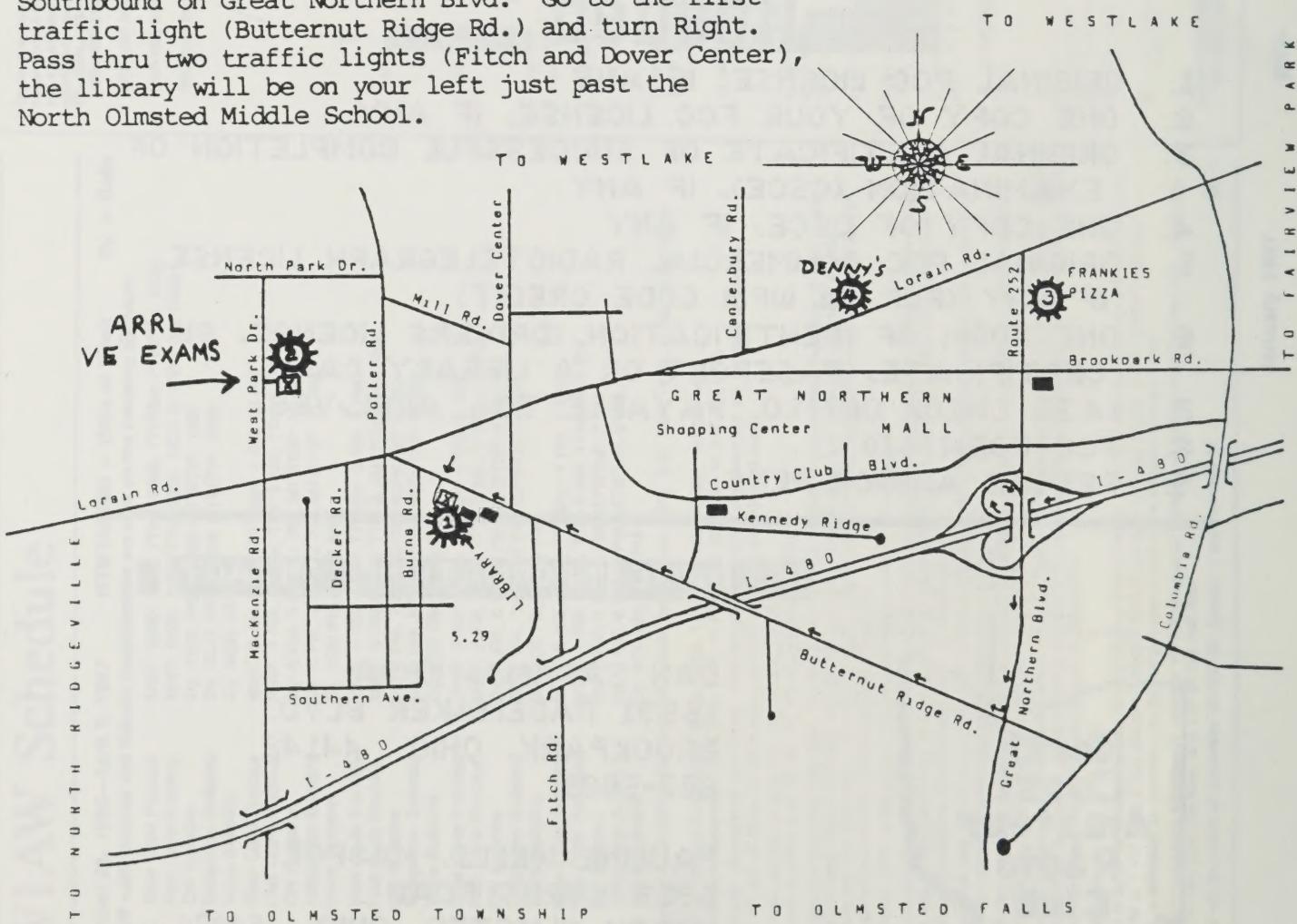
NORTH COAST AMATEUR RADIO CLUB MAP

- Location 1. NCARC General meetings (1st Thursday each month at 7:30 PM). NCARC "Fox Hunt" Hunters get ready (2nd Saturday each month) at 6:50 PM. Cuyahoga County Public Library, 27425 Butternut Ridge Rd., North Olmsted.
- Location 2. North Coast Amateur Radio Club ARRL VE Amateur Radio Examinations. North Olmsted Community Cabin, North Olmsted Park.
- Location 3. This is where all of the participants in NCARC Fox Hunts go after the hunt. Frankie's Pizza, 4641 Great Northern Blvd., N. Olmsted.
- Location 4. NCARC Board meetings (generally at 6:00 PM prior to general meetings) Denny's Restrauant, 25912 Lorain Ave., N. Olmsted.

HOW TO GET TO THE NCARC GENERAL MEETINGS FROM I-71

Take I-480 Westbound. If Southbound I-71 (from Cleveland), the exit after W.150th is Airport/I-480 Westbound (LEFT THREE LANES OF I-71). Once you are off of I-71, The right lane leads you to Westbound I-480. If Northbound I-71 (from Strongsville), the exit after Snow Rd. serves both East and Westbound I-480 (RIGHT TWO LANES OF I-71). The left one of the two most right lanes leads you to West I-480.

You will go pass the Grayton, Clague, and Great Northern Exits. Immediately after the Great Northern Exit, get off at the ROUTE 252 SOUTH - OLMSTED FALLS exit. This will take you Southbound on Great Northern Blvd. Go to the first traffic light (Butternut Ridge Rd.) and turn Right. Pass thru two traffic lights (Fitch and Dover Center), the library will be on your left just past the North Olmsted Middle School.



North Coast Amateur Radio Club - MINI ROSTER - December 27, 1986

CALL	NAME	CALL	NAME	CALL	NAME	CALL	NAME
KB8-A	DAN	KD8-EQ	DICK	KD8-JQ	DON	KA8-THY	EDNA
K8-AAI	BOB	WA8-ERA	LEE	W8-KGA	LARRY	K8-TKQ	HOWARD
W8-ADV	RAY	W8-ETC	LEN	WD8-KHU	MARK	WA8-TMK	FRED
WL7-AEC	TOM	N8-ETP	TOM	KC8-KI	JOHN	KA8-TQR	DENNIS
N9-AGC	GREG	N8-ETQ	DAN	WD8-KTC	MARIE	KB8-TT	DAVE
KB8-AII	PAT	N8-ETW	ERNIE	KA8-LIH	KAREN	K8-TTZ	BOB
WD8-AJF	DAN	N8-ETY	DAVE	N8-LL	JIM	WB8-UDA	FRED
KB8-AK	PAT	N8-ETZ	MARY	WD8-LRZ	LARRY	KA8-UFN	OLLIE
KB8-AOL	TOM	KA8-EVS	CHARLIE	AI8-M	DAVE	K8-UHX	J D
N8-API	GEORGE	KD8-EX	TOM	KV8-M	TOM	K8-UID	RON
N8-ATV	JERRY	KC8-F	HEINZ	N08-M	STEVE	W8-UNB	MEL
N8-AUH	DAVE	W8-FAZ	JOE	K8-MBZ	DAVE	WB8-UPA	RUSS
K8-AZ	TOM	N8-FCX	RON	K8-MDC	FRED	K8-UTE	BASIL
WA8-AZO	JOE	N8-FDY	TOM	K8-MGH	LOU	KA8-VDU	AL
W1-BBW	SHELLY	N8-FEG	PETE	WD8-MHL	RAY	K8-VJG	RON
KA8-BJA	FRANK	N8-FGR	WAYNE	WD8-MHR	ERIC	KA8-VYN	STEVE
W1-BKZ	PETE	N8-FIL	RICH	K8-MO	JEFF	KA8-WAR	JOE
KE8-BN	MARK	N8-FKS	DON	W8-MW	MAYNARD	KA8-WCK	ROY
N8-BO	CHARLIE	N8-FKT	BOB	WB8-NAQ	BILL	KA8-WHK	RALPH
WB8-BPA	DON	KA8-FOE	PAULINE	WA8-NXT	FERD	KA8-WJH	JOE
KA8-BPU	RAY	WA8-FOV	TED	WB8-NXT	NEIL	K8-WNE	GEORGE
N8-BTB	STEVE	N8-FQQ	TOM	NQ8-O	TOM	KA8-WRZ	LARRY
K8-BVI	ART	N8-GJR	JIM	WD8-OCI	BOB	W8-WXR	ROGER
N8-BYW	BUD	W8-GNB	EDDIE	WD8-OMW	GLENN	AE8-X	JIM
AE8-C	SY	N8-GNJ	STEVE	K8-OPV	GEORGE	AJ8-Y	DENNIS
W8-CEJ	MEL	N8-GNL	JOHN	N4-OSD	CHUCK	AK8-Y	MIKE
W8-CEM	CHUCK	HR3-GS	GLADIS	WD8-OYO	DAVE	KA8-Y	SHIRLEY
W8-CHA	STEVE	WA8-GZC	MARION	WD8-PAQ	BOB	KW9-Y	DON
WD8-CHL	JIM	N8-HAD	SKIP	KA8-PEF	JOE	KA8-YEA	EILEEN
KB8-CI	TOM	N8-HHE	ROB	W8-PEV	JIM	KD8-YM	MIKE
N8-CKV	PAUL	N8-HOB	PAUL	WA8-PJK	PAUL	WB8-YNX	CLYDE
KA8-CKZ	BILL	N8-HPV	ELIZABETH	K8-PPZ	TOM	NB8-Z	LARRY
N8-CQD	BILL	N8-HSE	NAN	W8-PSX	JIM	KB8-ZA	JIM
KE8-CT	PETE	N8-HTX	MONICA	WD8-QAC	AL	KA8-ZEP	ANN
WA8-CTU	AL	N8-HUR	CARL	K8-QNK	DICK	KD8-ZK	ED
N8-DAD	BARB	N8-HVQ	JACK	KA8-QQQ	LARRY	KA8-ZRF	JACK
K8-DBG	DICK	N8-HWK	LARRY	K8-RBV	BOB	KA8-ZRG	DAVE
K8-DBN	BILL	N8-HWP	EVELYN	WD8-RBX	ZEN	KA8-ZRH	ED
K8-DDY	BILL	W3-IGI	BILL	WB8-RGK	TIM	KA8-ZTY	GEORGE
KE8-DJ	DIANE	W7-IJ	BILL	KA8-RKI	TAMI	KA8-ZTZ	CODY
N8-DMK	RUSS	WA8-IMO	BOB	K8-RSH	CHUCK	KA8-ZUA	KATHY
N8-DPZ	BOB	KA8-IMU	TONY	K8-RWR	JOHN	KA8-ZUB	PAULA
K8-DTS	BOB	WD8-INK	KEN	K8-RZP	JOHN	KA8-ZUC	DIANE
WB8-DTY	tommie	WD8-INO	STEVE	K8-SCI	RICK	WB8-ZUR	JOHN
KE8-DX	DICK	W8-IO	BOB	WD8-SDP	LIN	KA8-ZVK	MERILEE
WA8-DYL	GENE	WD8-IQO	MILT	KA8-SLX	CHRIS	KA8-ZVU	TERRY
KB8-DZ	JOE	WD8-IRG	VAN	WA8-SNI	CHARLIE	KA8-ZVV	MARY
N8-DZO	JACK	WD8-ISB	DICK	KA8-SNM	CHERI	KA8-ZWV	GENE
W8-EFW	PAUL	KR0-J	JEFF	K9-SSL	MIKE	KA8-ZVX	JASON
N8-EIJ	KEN	N6-JAM	RON	KA8-SYT	JOHN	- TINA STROH	
W8-EPM	JOE	WD8-JMM	AL	NR8-T	TIM	- TIM SULL	

NORTH COAST AMATEUR RADIO CLUB - 1987 CALENDAR YEAR

OFFICERS

President - - -	Tim Hitesman	NR8T	871-3055
V. President - -	Bob Mills	K8TTZ	431-9492
Treasurer - - -	Jim Nestor	N8GJR	1-355-8697
Secretary - - -	Dave Hoffmann	KA8ZRG	835-8275

POSITIONS

ARRL VE Liaison -	Dan	KB8A	267-5083
Awards - - - - -	Fred	WB8UDA	U.L.
Contest - - - - -	Dave	KB8TT	942-5030
Editor - - - - -	Rick	K8SCI	779-8999
Education - - - -	Bob	W8IO	734-0570
Event Complier - -	Ed	KA8ZRH	651-8191
Field Day - - - -	Paul	N8HOB	884-8398
Finance - - - - -	Mike	K9SSL	225-1744
Membership - - - -	Pauline	KA8FOE	779-8999
NCARES - - - - -	Rick	K8SCI	779-8999
Net Coordinator -	Steve	N8GNJ	1-365-2793
Programs - - - - -			
Public Relations -	Kathy	KA8ZUA	871-3055
Refreshments - - -	Pauline	KA8FOE	779-8999
Sunshine - - - - -	Pauline	KA8FOE	779-8999
Technical - - - - -	Jeff	KR0J	631-6087

TRUSTEES

Dan - - -	N8ETQ	845-5442
Tom - - -	KD8EX	1-933-8753
Pauline -	KA8FOE	779-8999
Steve - -	N8GNJ	1-365-2793
Dick - -	WD8ISB	467-7733
Steve - -	WD8INO	741-2547
Steve - -	NO8M	777-1177
Ray - - -	WD8MHL	671-0317
Rick - - -	K8SCI	779-8999

VOLUNTEER EXAMINERS

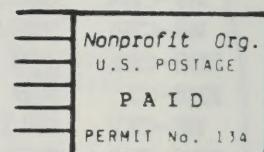
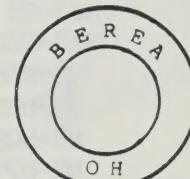
Dan - - -	KB8A	267-5083
Heinz - -	KC8F	734-6890
Bob - - -	W8IO	734-0570
Dick - -	WD8ISB	467-7733
Don - - -	KD8JQ	1-723-5492
Dave - -	AI8M	1-324-4574
Steve - -	NO8M	777-1177
Mike - -	K9SSL	225-1744
Tim - - -	NR8T	871-3055
Shirley -	KA8Y	562-5858

Instructors/helpers or "Elmers" needed. Amateur Radio Classes start Feb 4th. Bob 734-0570



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P.O. Box 30529
Cleveland, Ohio 44130



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